

WHAT IS CLAIMED IS:

- 1 1. A system for managing projector bulb life, the system comprising:
2 a luminance sensor disposed to sense the luminance of the projector bulb;
3 a luminance controller interfaced with the luminance sensor and a power
4 driver of the projector bulb, the luminance controller operable to
5 reduce the power driver output to limit projector bulb luminance at or
6 below a setpoint level associated with a desired projector bulb life if
7 the maximum luminance of the projector bulb is greater than a
8 predetermined brightness.

- 1 2. The system of Claim 1 wherein the luminance controller is further
2 operable increase power driver output to maintain projector bulb luminance
3 substantially at the setpoint level if the sensed luminance falls to a predetermined
4 brightness.

- 1 3. The system of Claim 1 further comprising a switch disposed between
2 the power driver and the luminance controller, the switch operable to selectively
3 disable the projector bulb luminance controller interface with the power driver.

- 1 4. The system of Claim 1 wherein the projector bulb comprises an ultra
2 high pressure mercury vapor bulb.

- 1 5. The system of Claim 1 wherein the projector bulb comprises a xenon
2 halogen bulb.

- 1 6. The system of Claim 1 wherein the luminance sensor comprises an
2 infrared sensor associated with an infrared filter of the projector.

- 1 7. The system of Claim 1 wherein the luminance sensor comprises a
2 visible light senor aligned to sense light leakage from a mirror of the projector.

1 8. A method for managing projector bulb life, the method comprising:
2 sensing the luminance of the projector bulb;
3 determining that the sensed luminance exceeds a luminance threshold
4 associated with a desired projector bulb life; and
5 reducing the power applied to the projector bulb to reduce the luminance of
6 the projector bulb to at or below the luminance threshold associated
7 with the desired projector life.

1 9. The method of Claim 8 further comprising:
2 determining that the sensed luminance falls below a luminance threshold
3 associated with a minimum desired available luminance at a maximum
4 brightness setting; and
5 increasing the power applied to the projector bulb to increase the luminance of
6 the projector bulb to the luminance threshold of the minimum desired
7 luminance for the maximum brightness setting.

1 10. The method of Claim 9 wherein the luminance threshold associated
2 with a desired projector bulb life and the luminance threshold associated with
3 minimum desired available luminance are substantially equal when the projector is set
4 at maximum brightness.

1 11. The method of Claim 8 further comprising engaging a switch to
2 override the reducing of the power applied to the projector bulb so that the luminance
3 exceeds the threshold.

1 12. The method of Claim 8 further comprising:
2 passing the light from the projector bulb through an infrared filter;
3 wherein sensing the luminance further comprises sensing the infrared light at
4 the infrared filter.

1 13. The method of Claim 8 further comprising:
2 passing the light from the projector bulb through a first aperture to a
3 colmunator for illuminating an image;
4 passing the light from the projector bulb through a second aperture to a
5 luminance sensor for sensing the luminance.

1 14. The method of Claim 8 wherein the bulb provides light for a digital
2 mirror device projector having a color wheel, and wherein sensing the luminance
3 further comprises sensing luminance at the color wheel.

1 15. The method of Claim 8 wherein the bulb provides light for a digital
2 mirror device projector having a mirror for projecting an image, and wherein sensing
3 the luminance further comprises sensing luminance of light leakage at the mirror.

1 16. A projector for display of information, the projector comprising:
2 an image operable to display the information;
3 a bulb operable to provide light to illuminate the image;
4 a power driver interfaced with the bulb and operable to provide selectable
5 variable power to illuminate the image with selectable variable
6 luminance;
7 a luminance sensor disposed to sense the luminance of the bulb; and
8 a luminance feedback controller interface with the power driver and the
9 luminance sensor, the luminance feedback controller operable to
10 control power applied by the power driver according to the luminance
11 sensed by the luminance sensor to achieve a predetermined bulb
12 parameter.

1 17. The projector of Claim 17 wherein the luminance feedback controller
2 achieves a desired bulb life by limiting power applied by the power driver to restrict
3 luminance sensed by the luminance sensor at or below a predetermined setpoint.

1 18. The projector of Claim 17 wherein the luminance feedback controller
2 achieves a desired maximum available luminance from the bulb by increasing power
3 applied by the power driver to increase luminance sensed by the luminance sensor at
4 or above a predetermined setpoint when the selected luminance exceeds a
5 predetermined level.

1 19. The projector of Claim 17 further comprising a switch interfaced with
2 the luminance feedback controller and operable to disengage control by the luminance
3 feedback controller of the power driver.

1 20. The projector of Claim 17 wherein the image comprises output of a
2 digital mirror device.